



NEUROIMAGING FOR CLINICIANS,
BY CLINICIANS

38th Annual Meeting

JANUARY 15-18, 2015

Carefree Resort
Carefree, Arizona

ONSITE
PROGRAM



WELCOME TO THE 38th ANNUAL MEETING OF THE AMERICAN SOCIETY OF NEUROIMAGING

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HANDOUTS

Pre-registered attendees were sent a link to the meeting handouts prior to the meeting. The link was sent from asn@llmsi.com

ABSTRACTS

Abstract titles and authors are listed on pages 25-28. Full text abstracts can be found online at www.asnweb.org

CME CREDITS

Attendees will be sent a link to the online evaluation form after the meeting. The email will come from asn@llmsi.com. The CME form can be downloaded from the last page of the overall meeting evaluation. Please save your CME form for your records; ASN does not track attendee CME hours.

General and CME Information

ASN Mission Statement

The American Society of Neuroimaging (ASN) is an international, professional organization of clinicians, technologists and research scientists who are dedicated to education, advocacy and research to promote neuroimaging as a crucial to the treatment and investigation of disorders of the nervous system. The ASN supports the right of qualified physicians to utilize neuroimaging modalities for the evaluation and management of their patients, and the right of patients with neurological disorders to have access to appropriate neuroimaging modalities and to physicians qualified in their use and interpretation. The ASN supports clinical and basic science research by neuroimagers through educational programs, an annual meeting and a scientific journal.

The goal of the ASN is to promote the highest standards of neuroimaging in clinical practice, thereby improving the quality of medical care for patients with diseases of the nervous system. This goal is accomplished through:

- Presenting scientific and educational programs at an annual meeting and through the promotion of fellowships, preceptorships, tutorials and seminars related to neuroimaging;
- Publishing a scientific journal;
- Formulating and promoting high standards of practice and setting training guidelines;
- Evaluation of physician competency through examinations.

The ASN's education activities are detailed in its CME Mission Statement. Emphasis is placed on the correlation between clinical information and neuroimaging data to provide the cost effective and efficient use of imaging modalities for the diagnosis and evaluation of diseases of the nervous system.

The ASN will continue to develop training and practice guidelines related to neuroimaging for

- 1) physicians in practice who currently use or wish to use neuroimaging;
- 2) physicians in residency or fellowship training;
- 3) healthcare entities responsible for defining or allocating professional privileges and credentialing to individual physicians.

AMERICAN SOCIETY OF NEUROIMAGING CME MISSION STATEMENT

The American Society of Neuroimaging (ASN) is an international professional organization of clinicians, technologists and research scientists who are dedicated to the advancement and advocacy of neuroimaging as a crucial to the treatment and investigation of disorders of the nervous system. The purpose of the ASN is to promote the integration of neuroimaging into the care of patients with neurological disorders through education, advocacy, accreditation and research.

The ASN's Annual Meeting educational activities meet the educational needs of physicians in practice and in training who use imaging techniques to investigate and treat disorders of the nervous system. Neuroimaging techniques that are included the ASN educational activities include x-ray, angiography and computed tomography, magnetic resonance, ultrasound, positron emission tomography and single photon emission computed tomography and near infra-red spectroscopy. Emphasis is placed on the correlation of the clinical data with information derived from the various methods used to image the nervous system and related structures (integrated neuroimaging) and on the updating of algorithms leading to a cost effective and efficient use of imaging modalities for the different disorders of the nervous system.

The Society further supports and promotes Fellowships, Preceptorships, Tutorials, and Seminars, related to neuroimaging held throughout the country. These courses address advances in the role of MRI, CT and Neurosonology in Neurology and are designed to help practitioners and trainees improve their interpretation skills. The ASN supports certification and self-assessment examinations in neuroimaging modalities to recognize the ability of neuroimagers to interpret studies.

TARGET AUDIENCE

The material presented at the 38th Annual Meeting is appropriate for neurologists, radiologists, and other physicians and health care professionals involved in the diagnosis and treatment of patients with neurologic disease.

ACCREDITATION

The American Society of Neuroimaging is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

DESIRABLE PHYSICIAN ATTRIBUTES

The material presented at the 38th Annual Meeting is designed to procure medical knowledge and cognitive expertise.

CREDIT DESIGNATION

The American Society of Neuroimaging designates this live activity for a maximum of 26.75 *AMA PRA Category 1 Credit*[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

CME CERTIFICATES AND EVALUATIONS

CME certificates will be issued after the conclusion of the 2015 Annual Meeting. In order to receive your CME certificate you will need to submit an evaluation form for each course attended. In an ongoing effort to move to paperless format, evaluations will only be available online. All meeting attendees will receive an email after the meeting with a link to the evaluation. Please note: You will only receive CME credits for the courses for which you have registered.

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Many thanks to the ASN Program Committee for their efforts in developing this year's program:

Michael Hutchinson, MD, PhD (chair)

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Adnan Qureshi, MD

Alexander Razumovsky, PhD, FAHA

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Lawrence Wechsler, MD

2015 PROGRAM AT A GLANCE

THURSDAY, JANUARY 15, 2015

8:00am – 4:00pm	ASN Committee and Board Meetings	
3:00pm – 7:00pm	Registration	Saguaro Ballroom Entrance
5:00pm – 6:00pm	Welcome/Poster Stand-by Reception/Exhibits	Saguaro I, II and III
6:00pm – 7:00pm	Keynote Lecture: Quantitative Imaging in the Clinical Evaluation of Cognitive Impairment: Toward Improved Diagnosis of Neurodegenerative Disease	Cholla Ballroom
7:00pm – 8:00pm	SVIN Symposium: Vascular Neurology with MRI and Interventional	Cholla Ballroom

FRIDAY, JANUARY 16, 2015

6:30am – 5:00pm	Registration	Saguaro Ballroom Entrance
7:00am – 8:30am	Breakfast Seminar: Applied Principles of Ultrasound Physics and Fluid Dynamics	Cholla Ballroom
7:00am – 8:30am	Breakfast Seminar: Basic Considerations for Interpreting MRI Studies and Creating Imaging Reports	Saguaro IV
8:30am – 9:00am	Break/Exhibits	Saguaro I, II and III
8:30am – 10:00pm	Open Lab: Active MRI/CT image interpretation (paid MRI Hands-On Workshop attendees)	Saguaro V
9:00am – 3:00pm	Current Topics on MR/CT for the Clinician Part I	Cholla Ballroom
9:00am – 3:00pm	Basics of Neurosonology Part I	Saguaro IV
10:30am – 11:00am	Break/Exhibits	Saguaro I, II and III
12:30pm – 1:30pm	Industry Sponsored Lunch MRI Advancements in Neuroimaging Philips Healthcare	Cholla Foyer
3:00pm – 5:00pm	Symposium: Nuclear Functional Imaging	Cholla Ballroom
3:00pm – 6:00pm	Introduction to Neuroimaging for Students, Residents, Fellows and Advanced Practice Providers	Saguaro IV
6:00pm – 7:00pm	Discussion on Business/Advocacy <i>NON CME</i>	Mesquite Room
7:00pm – 10:00pm	Neurosonology Hands-On Workshop	Saguaro I



SATURDAY, JANUARY 17, 2015

7:00am – 4:00pm	Registration	Saguaro Ballroom Entrance
7:00am – 8:30am	Breakfast Seminar: Neuroimaging of Neurodegeneration	Cholla Ballroom
7:00am – 8:30am	Breakfast Seminar: Above and Beyond the Neck and Brain Ultrasound	Saguaro IV
8:30am – 9:00am	Break	Saguaro I, II and III
8:30am – 6:00pm	Open Lab: Active MRI/CT Image Interpretation (paid MRI Hands-On Workshop attendees)	Saguaro V
9:00am – 6:00pm	Current Topics on MR/CT for the Clinician Part I	Cholla Ballroom
9:00am – 6:00pm	Current Topics in Neurosonology Part II	Saguaro IV
10:40am – 10:55am	Break	Saguaro I, II and III
12:45pm – 2:10pm	Presidential Address and Awards Luncheon	Cholla Ballroom
3:50pm - 4:20pm	Break	Saguaro I, II and III
6:00pm – 7:00pm	ASN Networking Social	Stagecoach Pass
7:00pm – 9:00pm	MRI Hands-On Workshop Interpretation Discussion	Saguaro V

SUNDAY, JANUARY 18, 2015

7:00am – 11:00am	Registration	Saguaro Ballroom Entrance
8:00am – 9:00am	MRI Physics and Artifacts	Cholla Ballroom
9:00am– 11:00am	Neuroimaging Self-Assessment Examination	Saguaro IV
9:30am – 3:30pm	Neurosonology Examination	Offsite

**Speaker Ready Room is located
in the Ironwood Room**

Hours:

Thursday, January 15 from 3:00pm-7:00pm

Friday, January 16 from 6:30am-6:00pm

Saturday, January 17 from 6:30am-4:30pm

Sunday, Sunday 18 from 6:30am-9:00am

2015 Course Directors and Faculty

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Brookline, MA

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Austin, TX

James Brewer, MD

UC San Diego
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University of Minnesota
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Alex Razumovsky, MD, FAHA

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Charles Tegeler, MD

Wake Forest University School of
Medicine
Winston, Salem, NC

2015 ANNUAL MEETING PROGRAM

THURSDAY, JANUARY 15, 2015

Keynote Lecture: Quantitative Imaging in the Clinical Evaluation of Cognitive Impairment: Toward Improved Diagnosis of Neurodegenerative Disease

6:00pm – 7:00pm • Cholla Ballroom • CME: 1 Hour

James Brewer, MD

Course Description: Dr. Brewer will discuss how imaging assessment of neurodegeneration and underlying pathology may help distinguish prodromal Alzheimer's disease from its mimics, with a focus on implications for clinical practice and clinical trials.

Objectives:

- ◆ Recognize the clinical and imaging features of prodromal Alzheimer's disease.
- ◆ Consider when to pursue imaging biomarkers in clinical practice to identify regional brain atrophy and amyloid pathology.
- ◆ Understand the relative strengths and limitations of imaging biomarkers for neurodegeneration and pathology.

SVIN Symposium: Vascular Neurology with MRI and Inventional

7:00pm – 8:00pm • Cholla Ballroom • CME: 1 Hour

Ken Snyder, MD

FRIDAY, JANUARY 16, 2015

Breakfast Seminar: Applied Principles of Ultrasound Physics and Fluid Dynamics

7:00am – 8:30am • Saguaro IV • CME: 1.5 Hours

Director: Andrei Alexandrov, MD, RVT

Co-Director: Zsolt Garami, MD

Course Description: This seminar is being offered to review ultrasound physics and fluid dynamics, demonstrate typical imaging artifacts and waveforms that interpreting physicians and sonographers need to identify and correct and to interact with the audience and answer questions about these typical findings. Course faculty will discuss applied principles of ultrasound physics and fluid dynamics using a set of approximately 50 typical images/waveforms. Discussion format includes brief case/symptom presentation and an ultrasound image. Faculty will ask the audience to interpret the image and engage in discussion of differential diagnosis and common pitfalls that are linked to ultrasound physics and fluid dynamics.

Objectives:

- ◆ Review most common ultrasound imaging artifacts and spectral waveforms.
- ◆ Learn key principles of applied ultrasound physics and fluid dynamics that are responsible for these findings.
- ◆ Learn how to differentiate, optimize, and interpret typical ultrasound imaging artifacts and spectral waveforms.

FRIDAY, JANUARY 16, 2015

**Breakfast Seminar: Basic Considerations for Interpreting MRI Studies
and Creating Imaging Reports**

7:00am – 8:30am • Cholla Ballroom • CME: 1.5 Hours

Director: Geoffrey Hartwig, MD

Course Description: This course is designed to introduce and review basic approaches to the analysis and interpretation of imaging studies of the brain, orbits, cervical spine, thoracic spine and lumbar spine. Guidelines for developing and creating a formal MRI report will be discussed.

Objectives:

- ◆ Participants will be encouraged to develop a systematic approach to analyze an MRI scan which in all practicality consists of an infinite number of data points.
- ◆ Participants will understand from a brief history of neuroimaging technology the amazing evolution of the current PACS technology.
- ◆ Participants will be encouraged to utilize the various image manipulation techniques contained in the standard PACS system to formulate an interpretation of the complex database presented in every imaging study.
- ◆ Participants will explore the current guidelines for creating an imaging report acceptable in accredited clinical MRI laboratories nationwide.

Current Topics on MR/CT for the Clinician Part I

9:00am – 3:00pm • Cholla Ballroom • CME: 4.5 Hours

Directors: John Bertelson, MD and Gabriella Szatmary MD, PhD

David Liebeskind, MD, Edip Gurol, MD, Adnan Qureshi, MD, Bhagwan, Moorjani, MD
and James Smirniotopoulos, MD

Course Description: This course will review a variety of neuroimaging topics of particular interest to the practicing neurologist. Keeping with the theme of the 2015 Annual Meeting, these topics are intended to reflect clinical subjects with the relevance today and the near future.

9:00am-9:45am	Perfusion Imaging	David Liebeskind, MD
9:45am-10:30am	Imaging Markers of Cerebral Small Vessel Diseases and Their Relevance in Clinical Practice	Edip Gurol, MD
10:30am-11:00am	COFFEE BREAK	
11:00am-11:45am	Imaging of Aneurysms and Other Vascular Malformations	Adnan Qureshi, MD
11:45am-12:30pm	Pediatric Epilepsy	Bhagwan Moorjani, MD
12:30pm-1:30pm	LUNCH	
1:30pm-2:15pm	Phakomatoses	James Smirniotopoulos, MD
2:15pm-3:00pm	Pediatric Brain Tumors	James Smirniotopoulos, MD

Objectives:

- ◆ The attendee will learn of new insights into latest neuroimaging technologies.
- ◆ The attendee will learn of new insights into the pathophysiology of wide range of neurological disorders.
- ◆ The attendee will be able to better apply neuroimaging technologies to the bedside differential diagnosis of various neurological disorders.

FRIDAY, JANUARY 16, 2015

Basics of Neurosonology Part I

9:00am – 3:00pm • Saguaro IV • CME: 4.5 hours

Directors: Zsolt Garami, MD and Alex Razumovsky PhD, FAHA

Faculty: Patricia (Tish) Poe, BS, RVT, FSVU, Digna Cabral, RVT, FAIUM, Marge Hutchisson, RVT, RDCS, Andrei Alexandrov, MD, RVT, Zsolt Garami, MD, Alex Razumovsky, MD, PhD and Alan Lumsden, MD, RVT

Course Description: The faculty will discuss basics of Transcranial Doppler (TCD) and carotid ultrasound physics and techniques of examinations, their clinical applications and interpretations. This course is for individuals seeking basic knowledge of Neurosonology.

9:00am-9:20am	Carotid duplex protocol	Patricia (Tish) Poe, BA, RVT, FSVU
9:20am-9:40am	Transcranial Doppler Protocol	Digna Cabral, RVT, FAIUM
9:40am-10:00am	Reporting Requirement	Marge Hutchisson, RVT, RDCS
10:00am-10:20am	Waveform Recognition	Andrei Alexandrov, MD, RVT
10:20am-10:30am	Questions and Answers	
10:30am-11:00am	BREAK	
11:00am-11:15am	Carotid IMT value in cardiovascular risk assessment	Digna Cabral, RVT, FAIUM
11:15am-11:30am	Carotid Plaque Evaluation	Alan Lumsden, MD, RVT
11:30am- 11:45am	Grading carotid Stenosis	Andrei Alexandrov, MD, RVT
11:45am-12:00pm	Embolus Detection and Monitoring	Zsolt, Garami, MD
12:00pm-12:15pm	TCD IN NICU	Alex Razumovsky, MD, PhD
12:15pm-12:30pm	Questions and Answers	
12:30pm-1:30pm	LUNCH	
1:30pm-1:45pm	Carotid Duplex Follow Up Intervention	Patricia Poe, BA, RVT, FSVU
1:45pm-2:00pm	IAC Accreditation: Issues and Answers	Marge Hutchisson, RVT, RDCS
2:00pm-2:15pm	Neurosonology value for the vascular surgeon	Alan Lumsden, MD, RVT
2:15pm-2:30pm	Cases from the operating room	Zsolt Garami, MD
2:30pm-2:45pm	Cases from the emergency room	Andrei Alexandrov, MD, RVT
2:45pm-3:00pm	Questions and Answers	

Objectives:

- ◆ Demonstrate a basic knowledge of the extra- and intracranial arterial vascular anatomy, physiology and pathophysiology.
- ◆ Recognize characteristic patterns of blood flow in the extra- and intracranial vessels.
- ◆ Identify proper techniques for performing comprehensive carotid and TCD studies. Relate normal and abnormal blood flow patterns to clinical presentation.
- ◆ Recognize and interpret carotid and TCD ultrasound findings. Understand clinical usefulness and limitations of the carotid and TCD ultrasound evaluations.

FRIDAY, JANUARY 16, 2015

Symposium: Nuclear Functional Imaging

3:00pm – 5:00pm • Cholla Ballroom • CME: 2 Hours

Director: Robert Miletich, MD

Course Description: Although most in the neurology and clinical neuroscience communities have some familiarity with positron emission tomography (PET) and single photon emission computed tomography (SPECT), knowledge of the practical utilization of these modalities for clinical patients is not as prevalent. This lack of knowledge of applied Nuclear Neurology extends to what clinical questions can be addressed by PET and SPECT, what radiopharmaceuticals are clinically available (ie. approved by FDA) and what types of studies can be performed. This course focuses on practical, present day, clinical application of PET and SPECT, presenting some basic science, but illustrating concepts and applications through clinical material from the speaker's daily clinical practice. The capacity of PET and SPECT to address management questions which arise in multiple disease states will be discussed. Radiopharmaceuticals available clinically will be presented. Imaging indications in the disease states of dementia, neurodegenerative disease, neuro-oncology, epilepsy, parkinsonism, movement disorders, cerebrovascular disease, neuropsychiatric disorders and other less common settings will be reviewed. Many third-party payers currently make reimbursements based on these indications. Standard and newly developed imaging techniques will be discussed. Finally, government-mandated training requirements for Nuclear Neurology will be presented. By measuring some aspect of nervous system function, PET and SPECT provide information that often is unobtainable from other sources, thus facilitating more rationale and cost-effective management.

Objectives:

- ◆ Know what kind of PET and SPECT studies are currently available to help manage patients, including which radiopharmaceuticals are FDA-approved.
- ◆ Understand what clinical questions can be addressed in different neurologic disease states by clinically available PET and SPECT.
- ◆ Decide how best to incorporate Nuclear Neurology into clinical practice, either through collaboration with other physician groups or pursuing government-mandated nuclear training.

CME CREDITS

Attendees will be sent a link to the online evaluation form after the meeting. The email will come from asn@llmsi.com. The CME form can be downloaded from the last page of the overall meeting evaluation. Please save your CME form for your records; ASN does not track attendee CME hours.

FRIDAY, JANUARY 16, 2015

**Introduction to Neuroimaging
(For Students, Residents, Fellows and Advanced Practice Providers)**

3:00pm – 6:00pm Saguaro IV CME: 3 Hours

Director: Ryan Hakimi, DO

Faculty: Ryan Hakimi, DO, Pat Capone, MD, Emma Fields APRN-CNP

Director of Fellow Case Presentations: Ali Saad, MD

Faculty of Fellow Case Presentations: Thomas Pfiffner, MD

Course Description:

Introduction to CT imaging of the head: At the end of this course novice learners will be able to distinguish normal from abnormal (mass lesions, hemorrhages, and ischemia) CT head findings. Learners will also be able to identify components of neurologic structures including the brainstem, cerebellum, CSF structures, deep white matter, subcortical gray matter, cortex, and arteries.

Introduction to carotid ultrasound and TCD: Novice learners will be introduced to TCD & carotid Duplex interpretation and their clinical application in daily practice including assessment of carotid stenosis, cerebral vasospasm, emboli detection, vasospasm, and brain death.

Introduction to MRI imaging of the head: This course will be beneficial to novice learners in the acute care setting to be knowledgeable in interpreting neuro-imaging for accurate diagnosis and timely interventions with better patient outcomes. We will discuss a basic approach to interpreting brain MRI sequences.

Fellows Case Presentation Description: Resident and fellow members of the ASN will present educational neuroimaging cases they have encountered during their training.

3:00pm – 3:40pm	Introduction to MRI	Ryan Hakimi, DO
3:40pm – 4:10pm	How to Approach Spine MRI	Pat Capone, MD
4:10pm – 4:35pm	Introduction to CT	Ryan Hakimi, DO and Emma Fields, APRN-CNP
4:35pm – 5:20pm	Introduction to US and TCD	Ryan Hakimi, DO
5:20pm – 6:00pm	Fellow Case Presentations	Ali Saad, MD

Objectives:

- ◆ Differentiate normal and abnormal CT/MRI scans of the brain and spine.
- ◆ Identify and discuss CNS lesions (ischemic and hemorrhagic) on CT and MRI studies.
- ◆ Identify CNS structures on brain CT/MRI scans (brainstem, CSF structures, deep white matter, subcortical gray matter, cortex, arteries).
- ◆ Discuss neurological exam and clinical correlation to the lesions as noted on neuroimaging
- ◆ Present unique/interesting neuroimaging cases.

HANDOUTS

Pre-registered attendees were sent a link to the meeting handouts prior to the meeting. The link was sent from asn@lmsi.com

FRIDAY, JANUARY 16, 2015

Discussion on Business/Advocacy

6:00pm – 7:00pm • Mesquite Room • CME: None

Director: Joseph Fritz, PhD

Joseph Fritz, PhD and Nazir Haidri, MD

Course Description: This session will take the form of a moderated panel discussion with experts in practice administration, payer relations, malpractice law, and government lobbying.

Objectives:

- ◆ Understand the current regulatory and payer landscape as it affects the business of neuroimaging by neurologists.
- ◆ Understand operational and documentation requirements to minimize risks to patient safety and the potential for malpractice lawsuits.

Neurosonology Hands-On Workshop

7:00pm – 10:00pm • Saguario I • CME: 3 Hours

Directors: Andrei Alexandrov, MD, RVT

Faculty: Co-Director: Zsolt Garami, MD

Course Description: This workshop will provide structured hands-on and question and answer sessions in carotid/vertebral duplex and specific transcranial Doppler techniques complete testing, emboli detection, right-to-left shunt detection and assessment of vasomotor reactivity. Both the beginner and experienced users are encouraged to attend. The workshop will also provide an opportunity to try the latest equipment, to meet experts and to discuss various aspects of neurosonology in small groups. The workshop is designed to meet the need for basic and advanced knowledge of insonation techniques, technological advances, and practical aspects of cerebrovascular testing.

Objectives:

1. Review complete scanning protocols for diagnostic carotid/vertebral duplex and TCD examinations, vasomotor reactivity, emboli detection, right-to-left shunt testing, and monitoring procedures (thrombolysis, head-turning, peri-operative testing), and IMT measurements.
2. Review equipment and expertise requirements in performing selected tasks with faculty using hands-on, instructional video or real time case recordings.

ABSTRACTS

Abstract titles and authors are listed on pages 25-28. Full text abstracts can be found online at www.asnwweb.org

SATURDAY, JANUARY 17, 2015

Breakfast Seminar: Neuroimaging of Neurodegeneration

7:00am – 8:30am • Cholla Ballroom • CME: 1.5 Hours

Director: Mike Hutchinson MD, PhD

Faculty: Mike Hutchinson MD, PhD and Claire Henchcliffe, MD DPhil

Course Description: This course will discuss some of the most important neuroimaging findings in neurodegenerative disorders, including Parkinson’s disease and related dopamine deficiency disorders, and the neurodegenerative dementias. Faculty will critically discuss how availability of dopamine transporter imaging, and of amyloid imaging in the clinical care setting already impacts on use of neuroimaging in diagnosis. We will also describe some of the promising new imaging approaches to neurodegenerative disorders, including MRI findings.

Objectives:

- ◆ To describe commonly used imaging modalities for neurodegenerative disorders
- ◆ To critically discuss the roles of these modalities in diagnosis and evaluation of patients with a range of neurodegenerative disorders

Breakfast Seminar: Above and Beyond the Neck and Brain Ultrasound

7:00am -8:30am • Saguaro IV • CME: 1.5 Hours

Director: Zsolt Garami, MD

Faculty: Andrei Alexandrov, MD, RVT and Zsolt Garami, MD

Course Description: The faculty will discuss Ultrasound/MRA/DSA Correlation – Integrated Imaging.

7:00am -7:40am	Interesting Cases	Andrei Alexandrov, MD, RVT
7:40am - 8:20am	Hard Rock Cases	Zsolt Garami, MD
8:20am -8:30am	Q&A	

Objectives:

- ◆ The speaker will discuss the imaging modalities used to diagnoses conditions/diseases. Cases that are extremely difficult to interpret will be explored with interactive case discussions.
- ◆ The speaker will outline the disadvantages/limitations and advantages of each modalities.
- ◆ Learn to identify the best imaging modalities to diagnose neurovascular conditions/diseases.

CME CREDITS

Attendees will be sent a link to the online evaluation form after the meeting. The email will come from asn@llmsi.com. The CME form can be downloaded from the last page of the overall meeting evaluation. Please save your CME form for your records; ASN does not track attendee CME hours.

SATURDAY, JANUARY 17, 2015

Current Topics on MR/CT for the Clinician Part II

9:00am – 6:00pm • Cholla Ballroom • CME: 8 hours

Directors: John Bertelson, MD and Gabriella Szatmary MD, PhD

Faculty: Gabriella Szatmary, MD, PhD, Laszlo Mechtler, MD, Dara Jamieson, MD, John Bertelson, MD, Jennifer McVige, MD, Rohit Bakshi, MD and Guy Buckle, MD

Course Description: This course will review a variety of neuroimaging topics of particular interest to the practicing neurologist. Keeping with the theme of the 2015 Annual Meeting, these topics are intended to reflect clinical subjects with the relevance today and the near future.

9:00am-9:50am	Pseudotumor	Gabriella Szatmary, MD, PhD
9:50am-10:40am	Brain Tumors	Laszlo Mechtler, MD
10:40am-10:55am	BREAK	
10:55am-11:45am	Spinal Tumors	Laszlo Mechtler, MD
11:45am-12:35pm	Headache in Pregnancy	Dara Jamieson, MD
12:45pm-2:10pm	Presidential Address and Awards Luncheon	
2:10pm-3:00pm	Neuroimaging of Dementia	John Bertelson, MD
3:00pm-3:50pm	Imaging of TBI	Jennifer McVige, MD, PhD
3:50pm-4:20pm	BREAK	
4:20pm-5:10pm	Imaging and MS diagnosis	Rohit Bakshi, MD
5:10pm-6:00pm	Imaging to Monitor Response to Medications in MS	Guy Buckle, MD

Objectives:

- ♦ The attendee will learn of new insights into latest neuroimaging technologies.
- ♦ The attendee will learn of new insights into the pathophysiology of wide range of neurological disorders.
- ♦ The attendee will be able to better apply neuroimaging technologies to the bedside differential diagnosis of various neurological disorders.

HANDOUTS

Pre-registered attendees were sent a link to the meeting handouts prior to the meeting. The link was sent from asn@llmsi.com

SATURDAY, JANUARY 17, 2015

Current Topics in Neurosonology Part II

9:00am – 6:00pm • Saguaro IV • CME: 8 Hours

Directors: Zsolt Garami, MD and Alex Razumovsky, PhD, FAHA

Faculty: Charles Tegeler, MD, Andrei Alexandrov MD, RVT, Alex Razumovsky, PhD, FAHA and Zsolt Garami, MD

Course Description: This course is for individuals interested in performing and interpreting advanced carotid duplex studies for assessment of carotid intima-media thickness, carotid atherosclerosis and risk evaluation for cerebrovascular disease.

Transcranial doppler (TCD) ultrasound studies for specific applications, like for patients after ischemic stroke and cryptogenic stroke, role of sonothrombolysis, application and interpretation of TCD for patients after SAH due to the aneurysm rupture or due to the traumatic brain injury will be discussed. TCD monitoring during cardiovascular surgeries and interventions will be offered. Ample time will be left for questions and discussion. Upon completion of this course, participants will be able to identify interpretation and clinical applications of abovementioned specific neurosonology applications. The course material is designed for participants seeking advanced knowledge of neurosonology and its clinical applications.

9:00am-10:40am	TCD and Carotid Duplex Studies Interpretations	Charles Tegeler, MD
10:40am-10:55am	COFFEE BREAK	
10:55am-12:30pm	TCD and Carotid Duplex Studies Interpretations	Charles Tegeler, MD
12:45pm-2:10pm	Presidential Address and Awards Luncheon	
2:10pm-3:10pm	Specific TCD applications for Patients with CVD, Including Acute Stroke	Andrei Alexandrov, MD, RVT
3:10pm-3:50pm	Specific TCD Applications for Patients after Traumatic Brain Injury	Alex Razumovsky, PhD, FAHA
3:50pm-4:20pm	BREAK	
4:20pm-5:00pm	TCD Monitoring of Critically Ill Patients	Alex Razumovsky, PhD, FAHA
5:00pm-5:40pm	TCD Monitoring during Invasive Cardiovascular Procedures and Surgery	Zsolt Garami, MD
5:40pm-6:00pm	Question & Answer	

Objectives:

- ◆ Identify techniques and protocols for performing advanced cerebrovascular studies using duplex scans, real-time spectral Doppler analysis and understand the clinical usefulness and limitations of the carotid duplex and TCD evaluations. Achieve experience in acquiring and interpreting advanced carotid duplex and TCD testing in common neurovascular disorders, i.e., stroke, TIA, extra- and intracranial stenosis.
- ◆ Recognize characteristic patterns of blood flow in the cerebrovascular vessels and relate normal and abnormal cerebrovascular blood flow changes to clinical presentations, thus improving quality of diagnostic testing and patient's outcome. Special TCD pattern changes in patients after subarachnoid hemorrhage and traumatic brain injury in Neuro-Critical Care settings will be addressed.
- ◆ Identify characteristic changes of the TCD variables monitored during the surgeries or endovascular treatment and relate these changes to the possible interventions that will reduce rate of postoperative complications

SATURDAY, JANURY 17, 2015

MRI Hands-On Workshop

7:00pm – 9:00pm • Saguario V • CME: 2 Hours

Director: Geoffrey Hartwig, MD

Course Description: Several imaging stations utilizing PACS technology will be available to participants throughout Friday and Saturday. Participants will have the opportunity to review actual cases involving imaging of the brain, orbits, cervical spine, thoracic spine and lumbar spine. Each participant is expected to review at least 10 cases on their own during the open lab sessions and create written reports using their own or provided templates. They are not limited to 10 cases but may create as many reports as time permits. The reports will be submitted for review by the director and returned at the evening workshop on Saturday night. At that time the cases will be reviewed and discussed by everyone in the workshop session.

Objectives:

- ♦ Participants will be exposed to a representative cross section of neurological MRI studies encountered in medical practice in a typical work environment.
- ♦ Participants will acquire personal experience interpreting various cases on their own and creating reports that are acceptable by national accreditation agency guidelines.
- ♦ Participants will be supervised by a practicing neuroimager and will interact with their colleagues in a manner to improve their reading skills at their own workplaces.

ABSTRACTS

Abstract titles and authors are listed on pages 25-28. Full text abstracts can be found online at www.asnwweb.org

SUNDAY, JANUARY 18, 2015

MRI Physics & Artifacts

8:00am – 9:00am • Cholla Ballroom • CME: 1 Hour

Director & Faculty: Joseph Fritz, PhD

Course Description: The purpose of this course is to provide a foundation for how MRI images are created, and extend on basic principles to describe the manipulations that are used to create the extensive variety of available sequences.

Objectives:

- ◆ MRI Physics Fundamentals. Review of standard and advanced brain and spine MRI protocols (T1, T2, IR/FLAIR/STIR, SE vs FE vs SWI, EPI, DWI, MRA, Perfusion, fMRI, Spectroscopy and DTI.) Generic and vendor acronyms will be noted for each technique.
- ◆ Review of artifacts. The cause of artifacts will be reviewed and techniques that mitigate them will be presented. Cases will be presented and audience participation invited to help distinguish artifact from pathology and suggest alternative sequences that can help clarify.

Neuroimaging Self-Assessment Examination

9:00am – 11:00am • Saguaro IV • CME: 2 Hours

Director: Dara Jamieson, MD

Course Description: The Neuroimaging Self-Assessment Examination (SAE) is intended to be a Neuroimaging self-assessment tool, providing participants with a structured opportunity to gain insight into their own personal strengths and weaknesses relative to their peers in the provision and clinical evaluation of Neuroimaging studies. Knowledge and skills to be assessed in this setting will include identification of normal anatomical structures, accuracy in the identification of specific pathologies on MRI and CT studies, formulation of Neuroimaging differential diagnoses, basic MRI and CT physics knowledge, and the ability to correlate imaging findings with clinical history. Subject matter covered by the SAE will include diagnostic neuroimaging of common neurological disorders such as cerebrovascular disease, multiple sclerosis, CNS trauma, tumors and cysts, infections, toxic/metabolic disorders and diseases of the spinal cord and surrounding tissues. Knowledge of basic MRI and CT physics principles essential for protocol design, safety, recognition of artifact and differentiation of tissue types based upon CT density and MRI signal characteristics will also be assessed. The SAE will be presented in a multiple choice PowerPoint format projected on a screen to the audience with 1.5 minutes allotted per question. The subject matter will span 35 clinical neuroimaging cases and 15 questions related to imaging physics and technology. Each question will consist of a short text passage describing a clinical vignette or set of specific imaging-related parameters, accompanied by images or diagrams, followed by five answer options in multiple-choice format. Attendees will mark the single best answer to each question on a provided answer sheet, which will be passed in for grading at the end of the 90-minute course period. Clinical cases will incorporate detailed, high-resolution MRI and CT images of the brain and spine (including MR and CT angiography). Exam scores will be kept confidential. Each examinee will be able to access a personal score report online or via email within 6 weeks of the exam. Anonymized scores will be statistically analyzed by the course directors for validation and exam improvement purposes. None of the material to be used in this self-assessment exercise shall have been previously copyrighted.

Objectives:

- ◆ Become more familiar with personal strengths and weaknesses in the identification of normal versus abnormal imaging findings.
- ◆ Become more familiar with personal strengths and weaknesses in formulating a differential diagnosis pertaining to specific imaging presentations.
- ◆ Achieve greater levels of confidence in acquiring and interpreting MRI and CT studies in the assessment of common neurological disorders such as MS, stroke, tumor and trauma.
- ◆ Be able to identify areas of future study to increase levels of competence in the interpretation of diagnostic Neuroimaging cases.
- ◆ Be able to identify areas of future study to increase levels of competence in MRI and CT physics.

2015 FACULTY AND PROGRAM COMMITTEE DISCLOSURES

In accordance with the guidelines of the Accreditation Council for Continuing Medical Education (ACCME), ASN requires disclosure of any interests or affiliations with corporate organizations of Faculty (indicated below with F), Program Committee Members (indicated below with PC), and ASN staff members (indicated below with S).

Andrei Alexandrov, MD, RVT	(PC, F) Cerevast Therapeutics, Inc.: Chairman SAB
Rohit Bakshi, MD	(F) Biogen Idec: Consultation/Research; Teva: Research; Sanofi/Genzyme: Consultation/Research; Alkermes: Consultation; AbbVie: Consultation; Novartis: Consultation/Research; Questor: Consultation/Research
John Bertelson, MD	(F) No relationships
James Brewer, MD	(F) Eli Lilly Pharmaceuticals: Advisory Board; CorTechs Laboratories: Advisory Board; Human Longevity, Inc.: Advisory Board; Navidea: Research; Novartis: Advisory Board
Guy Buckle, MD	(F) Biogen Idec: Speaker/Consultation; Teva: Speaker/Consultation, EMD-Sernono: Speaker/Consultation; Genzyme: Speaker/Consultation; Bayer: Speaker/Consultation; Novartis: Speaker/Consultation; Acorda: Speaker/Consultation; Questor: Speaker/Consultation
Digna Cabral, RVT, FAIUM	(F) No relationships
Pat Capone, MD	(F) No relationships
Emma Fields, APRN-CNP	(F) No relationships
Joseph Fritz, PhD	(F) No relationships
Zsolt Garami, MD	(F) Philips: Consultation
Edip Gurol, MD	(F) No relationships
Nazir Haidri, MD	(F) No relationships
Ryan Hakimi, MD	(PC, F) No relationships
Geoffrey Hartwig, MD	(F) No relationships
Claire Henchelcliffe, MD DPhil	(F) GE Healthcare: Speakers Bureau/Development of Educational Materials; Acorda Therapeutics: Ad Hoc Advisory Board; Lundbeck: Speakers Bureau; Teva: Speakers Bureau/Ad Hoc Advisory; Neuroscience: Speakers Bureau/Ad Hoc Advisory; Biogen: Research; Kaneka: Research
Mike Hutchinson MD, PhD	(PC, F) No relationships
Marge Hutchisson, RVT, RDCS	(F) No relationships
Dara Jamieson, MD	(F) No relationships
David Liebeskind, MD	(F) Stryker: Consultation; Covidien: Consultation
Alan Lumsden, MD, RVT	(F) Hansen: Grants/Research/Participating/Investigator; W.L. Gore: Grants/Research/Participating/Investigator/Consultation/ Speakers Bureau; BSCI: Grants/Research/Participating/Investigator/ Consultation/ Speakers Bureau/Advisory Board; VNUS Medical: Consultation; Maquet: Consultation; Siemens: Consultation; Medtronic: Consultation/Speakers Bureau; Hatch Medical: Stock Shareholder; Northpoint Domain: Stock Shareholder; Embrella: Stock Shareholder; Innovasc Inc.: Advisory Board; Hansen: Advisory Board; Covidien: Advisory Board
Paul Maertens, MD	(PC) Supernus: Speaker; UCB: Speaker
Marc Malkoff, MD	(PC) No relationships
Jennifer McVige, MD, PhD	(F) No relationships
Laszlo Mechtler, MD	(F) Allergen: Speaker; Supernus: Speaker; Depomed: Speaker

Robert Miletich, MD	(F) No relationships
Bhagwan Moorjani, MD	(F) No relationships
Leslie Orvedahl	(S) No relationships
Erasmus Passaro, MD	(PC) UCB: Speaker/Consultation; Sunovion: Speaker/Consultation; Accordia: Consultation
Thomas Pfiffner, MD	(F) No relationships
Patricia Poe, BA, RVT, FSVU	(F) No relationships
Adnan Qureshi, MD	(PC, F) No relationships
Alex Razumovsky, MD, FAHA	(PC, F) FTE/Salary: Sentient NeuroCare Services, Inc.
Ali Saad, MD	(F) No relationships
James Smirniotopoulos, MD	(F) No relationships
Ken Snyder, MD, PhD	(F) Toshiba: Consultation
Gabriella Szatmary, MD, PhD	(F) No relationships
Charles Tegeler, MD	(PC, F) No relationships
Lawrence Wechsler, MD	(PC) SilkRoad Medical: Scientific Advisory Committee; Abbott Vascular: Consultation; Lundbeck: Consultation; Biogen Idec: Consultation; DSMC DIAS ³ / ₄ Consultation; DSMB ACT 1: Steering Committee



AMERICAN SOCIETY OF NEUROIMAGING

PRESIDENTIAL ADDRESS & AWARDS LUNCHEON ASN Business Meeting AGENDA ■ Carefree Resort – Carefree, AZ

Saturday, January 17, 2015 ■ 12:45-2:10pm

1. Call to Order
2. Approval of Minutes – January 18, 2014, Business Meeting
3. President’s Report – *Laszlo Mechtler, MD*
 - a) Recognition of Dr. Liebeskinds’s service as Treasurer
 - b) Recognition of Dr. Hutchinson’s service as Vice-President and Program Chair
 - c) Slate of Candidates
4. Program Committee Report – *Michael Hutchinson, MD, PhD*
2016 Annual Meeting: Hilton Lake Buena Vista, Orlando, FL - January 14-17, 2016
5. Treasurer’s Report – *Neeraj Dubey, MD*
6. Practice Issues Committee Report – *Elizabeth Rowe, PhD*
7. Journal of Neuroimaging Report – *Rohit Bakshi, MD*
8. Fellowship/Training Committee Report – *Laszlo Mechtler, MD*
9. Presentation of the Qureshi Award – *Adnan Qureshi, MD*
Presented to: Mahhammad-Atif Zubairi, MD
Endovascular intervention in a chronic case of idiopathic intracranial hypertension. (IIH)
10. Presentation of Oldendorf Award – *Laszlo Mechtler, MD*
Presented to: Lesley Flynt, MD
Imaging of striatal dopaminergic neurons using DaTscan, in correlation with clinical diagnosis in patients with suspected Parkinsonism versus Essential Tremor

11. Presentation of McKinney Award – *Laszlo Mechtler, MD*
Presented to: Hayrapet Kalashya, MD
Indexed Plaque Volume: A Novel Volumetric Tool for Assessment of the Severity of Carotid Disease
12. Presentation of Trainee Travel Awards – *Laszlo Mechtler, MD*
Presented to: Russell Cerejo, MD and Zain Guduru, MD
13. Recognition of Dr. Mechtler’s Service as President – *Michael Hutchinson, MD, PhD*
14. Passing of Gavel – *Laszlo Mechtler, MD*
15. New Business
16. Adjourn



AMERICAN SOCIETY OF NEUROIMAGING

PRESIDENTIAL ADDRESS & AWARDS LUNCHEON ASN Business Meeting Minutes ■ Hyatt Regency – Sarasota, FL

Saturday, January 18, 2014 ■ 1:15-2:45pm

The meeting was called to order by Dr. Laszlo Mechtler, ASN President.

On a motion seconded and carried, the minutes from the January 2013 minutes were approved as submitted.

President's Report

Dr. Mechtler reported that there is much work to be done over the next year and noted that ASN has developed a 10 Year Vision Task Force which is charged with improving the ASN's fiscal and organizational growth. Members of the Task Force include the President and an assortment of Board and Committee members. He encouraged ASN members at large to volunteer to participate in the Task Force.

Dr. Mechtler thanked Dr. Elizabeth Rowe for her advocacy efforts on behalf of ASN. He informed the membership that ASN will be circulating the ASN position statement to the membership and encouraged members to contact their governmental representatives and ask them to preserve the Stark Law. Dr. Mechtler reported that the AAN has three full time lobbyists, and at this time, ASN is using AAN as our lobbying arm as we no longer have our own lobbyist. He reported that AAN President, Dr. Timothy Pedley will be visiting the DENT this coming year and Dr. Mechtler will discuss the importance of having the AAN's support. He emphasized the importance of developing a long term plan to address advocacy issues.

Dr. Mechtler reported that the top goals for ASN are to grow the membership, increase sponsorship and corporate involvement, increase our visibility to AAN and increase the number of UCNS approved fellowships.

Dr. Mechtler noted that Dr. Eric Lindzen continues to offer a neuroimaging webinar every other Friday and encouraged members to contact Dr. Lindzen if they wish to participate.

Dr. Mechtler thanked Dr. William Preston for his service as Treasurer and Dr. Tudor Jovin for his service on the Board. He presented the slate of candidates for the open Board positions as follows:

- ◆ Neeraj Dubey, MD – Treasurer
- ◆ John Choi, MD – Board Position (2nd term)
- ◆ Eric Lindzen, MD, PhD – Board Position (2nd term)
- ◆ Erasmo Passaro, MD, FAAN – Board Position (2nd term)
- ◆ Joshua Klein, MD, PhD – Board Position

Dr. Mechtler then asked the membership for approval on the slate of candidates.

On a motion seconded and carried, the ASN membership approved the slate of candidates as submitted.

Program Committee Report

Dr. Michael Hutchinson emphasized the importance of the ASN meeting and reported that this year boasted fantastic educational programming. He noted that for the past couple of years there has been a concentrated effort in appealing to residents and fellows and offering information that is relevant to them and reported that resident and fellow attendance has increased. Dr. Hutchinson noted that the 2015 Annual Meeting will take place January 2015 in Carefree, AZ.

Treasurer's Report

Dr. William Preston reported that ASN ended the 2014 fiscal year with total assets in excess of \$400,000. He noted that we projected a net loss of \$33,000 but the net loss at year end was \$45,000. Reasons for the loss were decreased membership dues income, increased expenses for the Las Vegas meeting including Keynote speaker costs and a reduction in revenue from the *Journal of Neuroimaging*. He noted that ASN may want to consider holding the meeting in second tier cities since these tend to have lower costs in general. Dr. Preston explained that we may see a savings with the *Journal of Neuroimaging* moving to online only format. He noted that L&L Management agreed to freeze the management this year and emphasized the importance of increasing membership in ASN.

Practice Issues Committee Report

Dr. Elizabeth Rowe reported that the Practice Issues Committee has been working on efforts to preserve the In Office Ancillary Services Exemption (IOASE) and noted that the Government Accountability office (GAO) report stated that eliminating the IOASE would save Medicare two billion dollars over the next ten years. She noted that the President's proposed budget includes the IOASE elimination. She noted that we have been working with the other organizations who make up the Coalition for Patient Centered Imaging (CPCI) and rely on ancillary services. ASN responded with Dr. Michael Hutchinson's paper on self-referral, sending written letters to Congress signed by other CPCI organizations refuting the notion that self-referral leads to overutilization and sending the ASN membership advocacy alerts. She noted that a bill for Sustainable Growth Rate (SGR) fix will be going through Congress in the next few months. The bill is favorable and addresses the issue of overutilization and the use of appropriate imaging. She encouraged all ASN members to contact their Congress members and support the new bill. She noted that in addition to these advocacy efforts, ASN has also been working on the Neuroimaging Training Guidelines.

Journal of Neuroimaging Report

Dr. Joseph Masdeu reported that the Journal is doing well, and that the ultimate goal is to increase the impact factor to 2. He noted that in 2012 the impact factor was at 1.09. He noted that the Journal of Neuroimaging consistently rates in the top 50% for its assigned categories. He reported that the submission rate has tripled since 2005 when Wiley developed an online submission system. He noted that the Journal currently accepts 28% of submitted papers. Dr. Masdeu explained that while we would like to publish more papers, the impact factor decreases with more papers published so it's important to find the appropriate balance. Dr. Masdeu reported that beginning January 2014 the Journal will be available online only and no hardcopies will be printed. The decision to go completely paperless was made after polling the ASN membership where the majority of members were amenable to an online only subscription. This will help overcome the problem of limiting the number of pages per paper and will increase the number of pages published yearly. He noted that this will also allow us to have six journal issues per year instead of four. Dr. Masdeu announced that there is now a Journal application for the iPad and that an Android application is currently being developed. Dr. Masdeu reported that next year will be his last year as the Journal's Editor-in-Chief as he will have served two consecutive four year terms. He encouraged the membership to contact Dr. Lawrence Wechsler, Chair of the Journal Oversight Committee, if they are interested in being considered for this role.

Awards

Dr. Adnan Qureshi presented the Qureshi Award to Sonal Mehta, MD. Dr. Mechtler presented the Oldendorf Award recipient as Mahesh Kate, MD and the McKinney Award recipient as Lijuan Wang, PhD. The Travel Awards were announced as Yazan Suradi, MD and Reuben Valenzuela, MD.

There being no further business, the meeting was adjourned.

Respectfully submitted,

Shannon Wild
Executive Director

SLW:lao

2015 AWARD WINNERS

Awards will be presented Saturday, January 17, 2015 during the Presidential Address and Awards Luncheon.

Qureshi Award

The Qureshi Award is for the best abstract based on research in diagnostic angiography or endovascular procedures.

2015 Qureshi Award Recipient

Muhammad- Atif Zubairi, MD
University of New Mexico, Albuquerque, NM
Endovascular intervention in a chronic case of idiopathic intracranial hypertension. (IIIH).

Oldendorf Award

The Oldendorf Award is for the best abstract based on research in CT, MRI, SPECT or PET.

2015 Oldendorf Award Recipient

Lesley Flynt, MD
Beaumont Health System, Royal Oak, MI
Imaging of striatal dopaminergic neurons using DaTscan, in correlation with clinical diagnosis in patients with suspected Parkinsonism versus Essential Tremor

McKinney Award

The McKinney Award is for the best abstract based on research in neurosonology.

2015 McKinney Award Recipient

Hayrapet Kalashyan, PhD
University of Alberta Hospital, Alberta, Canada
Indexed Plaque Volume: A Novel Volumetric Tool for Assessment of the Severity of Carotid Disease

Trainee Travel Awards

The Trainee Travel awards are presented to the two top-ranked abstracts submitted by a resident/fellow for poster presentations.

2015 Resident Travel Award Recipients

Russell Cerejo, MD
Cleveland Clinic: Cerebrovascular Center, Cleveland, Ohio
Time Course of Imaging and Clinical Characteristics of Patients with Cerebral Amyloid Angiopathy – Related Inflammation and Homozygous APO E ε4

Zain Guduru, MD
Allegheny General Hospital, Pittsburgh, PA
Recurrent SMART syndrome: be smart and avoid invasive testing!!

2015 ANNUAL MEETING ABSTRACT INDEX

(Full abstracts can be found online at asnweb.org)

1. A Case of Unilateral Moyamoya Disease with Contralateral ICA hypoplasia

Ahmed Itrat, Ken Uchino
Cerebrovascular Center/Cleveland Clinic Cleveland, OH, USA

2. Neuroimaging of Varicella Zoster Virus Vasculitis Mimicking Giant Cell Arteritis

Ahmed Itrat, Ken Uchino
Cerebrovascular Center/Cleveland Clinic Cleveland, OH, USA

3. A Case of Carotid Web Resulting in Large Vessel Stroke

Joseph Petrsoric, Lauren DeNiro, Daniel Labovitz
Montefiore Medical Center and Albert Einstein College of Medicine/ Neurology Bronx, NY, USA

4. Combined Carotid Embolectomy and Endovascular Thrombectomy in Ischemic Stroke from Aortic Dissection

Ather M Taqui, Andrew Bauer, Muhammad S Hussain
Cleveland Clinic Cerebrovascular Center CLEVELAND, OH, USA

5. Endovascular intervention in a chronic case of idiopathic intracranial hypertension (IIH)

Muhammad-Atif Zubairi¹, Andrew Carlson²
¹University of New Mexico/Department of Neurology Albuquerque, NM, USA, ²University of New Mexico/Department of Neurosurgery Albuquerque, NM, USA

6. Sneddon's syndrome associated with cardiac involvement and antiphospholipid syndrome

Syed Amer¹, Mohammed Muqetadnan²
¹Mayo Clinic / Internal Medicine PHOENIX, AZ, USA, ²University of Oklahoma Health Sciences / Internal Medicine Oklahoma, OK, USA

7. Rare Case of Congenital Absence of Left Internal Carotid Artery

Syed Amer¹, Joyce Lee-Iannotti²
¹Mayo Clinic / Internal Medicine Phoenix, AZ, USA, ²Mayo Clinic / Neurology Phoenix, AZ, USA

8. Improvements in Computed Tomography Perfusion Output Using Complex Singular Value Decomposition

Jason A. Fisher^{1,2}, Jerrett Rushmore¹, Kenneth Snyder², David S. Wack²
¹Boston University School of Medicine Boston, MA, USA, ²University at Buffalo School of Medicine and Biomedical Sciences Buffalo, NY, USA

9. Pre-vertebral calcific tendinitis mimicking meningitis: A case report.

Shreyas Gangadhara¹, Katie Bailey²
¹Dept of Neurology, University of South Florida Tampa, FL, USA, ²Dept of Radiology, University of South Florida Tampa, FL, USA

10. Seizure Freedom in Epilepsy Secondary to Neuroimaging Detected Parenchymal Central Nervous System Cysticercosis

Amanda Leon¹, Erin Saito², David Naylor^{2,3,4}, Bijal Mehta^{2,3,4}, Aaron McMurtry^{2,3,4}
¹Pitzer College Claremont, CA, USA, ²Los Angeles Biomedical Research Institute/Neurology Department Torrance, CA, USA, ³Harbor-UCLA Medical Center/Neurology Department Torrance, CA, USA, ⁴David Geffen School of Medicine at UCLA/Neurology Department Los Angeles, CA, USA

11. On The Spot

Eugene L. Scharf, Christopher L. Kramer, Alejandro A. Rabinstein
Mayo Clinic Rochester, MN, USA

12. The Influence of Signal Noise on the Calculation of Cerebral Blood Flow and Cerebral Blood Volume in CT Perfusion Imaging

Kevin F Seals¹, David S Wack², Kenneth V Snyder³
¹SUNY Buffalo School of Medicine Buffalo, NY, USA, ²SUNY Buffalo Department of Nuclear Medicine Buffalo, NY, USA, ³SUNY Buffalo Department of Neurosurgery Buffalo, NY, USA

13. Reversible Encephalopathy due to Antiphospholipid Syndrome

Khaled Abdelmagid, Maertens Paul, Falkos Sheryl
University of South Alabama,/ Pediatrics and Neurology Mobile, AL, USA

2015 ANNUAL MEETING ABSTRACT INDEX

(Full abstracts can be found online at asnweb.org)

14. Balo's Concentric Sclerosis with Extensive MRI Brain Lesions in a 55 year old Male with Minimal Symptoms

Mahmoud AbdelRazek, Haris Kamal, Karanbir Singh, Salman Farooq, Ping Li
SUNY at Buffalo Buffalo, NY, USA

15. Behavioral Changes revealing Superficial Siderosis

Myriam Abdennadher, Ray M Bogitch, Jessica P Erfan, John A Bertelson
Neurology Department UMCB/UTSW Austin, TX, USA

16. Multi-outcome power estimation in clinical pharmaco-MRI (phMRI) trials in early drug development

Richard Baumgartner¹, Dai Feng¹, Tom Nichols², Mark Fiecas², Arthur Simen³

¹Biometrics Research, Merck Research Laboratories Rahway, NJ, USA, ²Department of Statistics, Warwick University Warwick, United Kingdom,

³Pfizer Worldwide Research and Development Boston, MA, USA

17. Unusual Extensive Collateral Venous Network in a Patient with Multiple Cerebral Venous Thromboses.

Laura E Bishop¹, Sara Duffus², Ryan Hughes², Ihtsham Haq¹

¹Wake Forest School of Medicine, Department of Neurology Winston Salem, NC, USA, ²Wake Forest School of Medicine Winston Salem, NC, USA

18. A Case of Atypical Demyelinating Disease: Not All It's Imaged To Be

Stephanie L Bissonnette, Jacqueline A Nicholas

The Ohio State University Wexner Medical Center, Department of Neurology Columbus, OH, USA

19. Time Course of Imaging and Clinical Characteristics of Patients with Cerebral Amyloid Angiopathy – Related Inflammation and Homozygous APO E ε4

Russell Cerejo, Seby John, Ken Uchino

Cerebrovascular Center, Cleveland Clinic Foundation Cleveland, OH, USA

20. Utilizing T2*GRE MRI Sequence as the Sole Imaging Modality to Select Patients for tPA Treatment

Cara C. Connolly¹, Adam J. Friedant¹, Dominique Monlezun¹, Alex J. George¹, Zane Noureddine¹, Ramy El Khoury^{1,2}

¹Tulane School of Medicine New Orleans, LA, USA, ²Tulane Medical Center New Orleans, LA, USA

21. Transient Globalamnesia as a presenting sign of Libman-Sacks Endocarditis

Poorvi Dalal, Sunil Mutgi, Michel Torbey

The Ohio State University Wexner Medical Center Columbus, OH, USA

22. WITHDRAWN

23. Magnetic Resonance Imaging Characteristics of Hyperacute Intracerebral Hemorrhage within 30 Minutes of Onset.

Nitin Goyal¹, Nickalus Khan², Ad Arthur², Ramin Zand¹

¹University of Tennessee Health Science Center, Department of Neurology Memphis, TN, USA, ²University of Tennessee Health Science Center, Department of Neurosurgery Memphis, TN, USA

24. Recurrent SMART syndrome: be smart and avoid invasive testing!!

Zain Guduru¹, Gayathri Sreedhar², Timothy Leichter³, Sandeep Rana⁴, Ramnath Santosh Ramanathan⁵

¹Allegheny Genral Hospital, Allegheny Health Network/ Neurology PITTSBURGH, PA, USA, ²Akron Children's Hospital/ Pediatric Neuroradiology Akron, OH, USA, ³Drexel University College of Medicine, Allegheny Genral Hospital, Allegheny Health Network/ Neurology PITTSBURGH, PA, USA, ⁴Drexel University College of Medicine, Allegheny Genral Hospital, Allegheny Health Network/ Neurology PITTSBURGH, PA, USA,

⁵Allegheny Genral Hospital, Allegheny Health Network/ Neurology PITTSBURGH, PA, USA

25. Clinical ramifications of diagnosing cerebr Alamyloid angiopathy with the aid of lobar microhemorrhage detection on gradient-echo or susceptibility-weighted images.

Atif Hashmi^{1,2}, Patrick M. Capone^{1,2}

¹Winchester Neurological Consultants Inc. Winchester, VA, USA, ²Winchester Medical Center Winchester, VA, USA

26. Brain MRI in a Mentaly Retarded Child with Angiostyrongylus Cantonensis Meningoencephalitis

Jonathan Holmes, Paul Maertens

University of South Alaba/ Neurology and Pediatrics Mobile, AL, USA

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27. Unique case of HSV encephalitis leading to post-infectious diffuse spinal arachnoiditis

Haris Kamal¹, Nicholas J. Silvestri¹, Mahmoud AbdelRazek¹, Bijal K Mehta²

¹University at Buffalo Department of Neurology Buffalo, NY, USA, ²Department of Neurology UCLA-Harbor Los Angeles, CA, USA

28. Acute Infarct in Pontine Medial Longitudinal Fasciculus (MLF) Misdiagnosed as atypical Miller Fisher Syndrome

Haris Kamal, Ashkan Mowla, Peyman Shirani, Karanbir Singh, Mahmoud Adbelrazek, Robert Sawyer Jr

University at Buffalo, Department of Neurology Buffalo, NY, USA

29. Structural Brain Abnormalities Associated with Visual Hallucinations in Parkinson's Disease: A voxel-based morphometry analysis.

Marissa Knell¹, Erin Saito², Natalie Diaz^{2,3,4}, Akash Shah³, Bijal Mehta^{2,3,4}, Aaron McMurtry^{2,3,4}

¹Tulane University New Orleans, LA, USA, ²Los Angeles Biomedical Research Institute/Neurology Department Torrance, CA, USA, ³Harbor-UCLA Medical Center/Neurology Department Torrance, CA, USA, ⁴David Geffen School of Medicine at UCLA/Neurology Department Los Angeles, CA, USA

30. The Association between Cardiovascular Risk Factors and Progressive Hippocampus Volume Loss in Persons with Alzheimer's Disease.

Iryna Lobanova, Adnan Qureshi

Zeenat Qureshi Stroke Institute St Cloud, MN, USA

31. An atypical case of PACNS presenting as RCVS mimic, an MRI perspective

Amir C Mazhari, Andrew W Lee

Summa Health Systems Akron, OH, USA

32. A Case of High Grade Optic Nerve Glioma with Evolution in an Immune-Competent Adult that Mimicked Inflammatory White Matter Disease.

Amir Mazhari, Hee-Byung Choe, Brandon Chandos

Neurology and Neuroscience Associates, Inc. Akron, OH, USA

33. A Case Report of Agenesis and Lipoma of the Corpus Callosum and Cavernoma in a 40 Year Old Male with History of Epilepsy.

Amir Mazhari, Hee-Byung Choe

Neurology and Neuroscience Associates, Inc. Akron, OH, USA

34. Amyloid spells: a diagnostic dilemma

Abhishek N Purohit, Nnamdi Dike, Zain Guduru, Andrea Synowiec

Allegheny General Hospital Department of Neurology Pittsburgh, PA, USA

35. In House Imaging is Feasible For Small Neurology Group Practices

Vernon D Rowe, Elizabeth S Rowe, George Moreng, John Hunter, Tammy Tubbs, LeAnn Cannon, Shain Reysack, Desiree Graves

Rowe Neurology Institute Lenexa, KS, USA

36. Spinal schwannomatosis - a distinct entity or a mixed variant of NF 2 , NF1 or both?

Nawal Shaikh^{1,2,3,4}, Sandeep Rana^{1,2,3,4}, Santosh Ramanathan^{1,2,3,4}, Abhishek Purohit^{1,2,3,4}

¹Allegheny general hospital, Drexel University College of Medicine Pittsburgh, PA, USA, ²Allegheny general hospital, Drexel University College of Medicine Pittsburgh, PA, USA, ³Allegheny general hospital, Drexel University College of Medicine Pittsburgh, PA, USA, ⁴Allegheny general hospital, Drexel University College of Medicine Pittsburgh, PA, USA

37. Exceptional MRI findings in a patient with amyotrophic Lateral Sclerosis (ALS)

Karanbir Singh, Haris Kamal, Nicholas J Silvestri

University at Buffalo/Department of Neurology Buffalo, NY, USA

38. A Rare Case of Isolated Intramedullary Cervical Spine Neurocysticercosis That Was Initially Misdiagnosed and Treated as Demyelinating Disease-A Case Report.

Yazan M. Suradi¹, Crystal Dixon², Rossitza Chichkova³

¹university of South Florida Tampa, FL, USA, ²university of South Florida Tampa, FL, USA, ³university of South Florida Tampa, FL, USA

39. Correlation of Pulsatility Index(PI) with Delta Heart Rate(ΔHR) in Postural Orthostatic Tachycardia Syndrome(POTS)

Chandralekha Ashangari, Amer Suleman

The Heartbeat Clinic Mckinney, TX, USA

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40. CORRELATION OF MEAN CEREBRAL BLOOD FLOW VELOCITY (MCV) AND CHANGE IN THE HEART RATE (Δ HR) IN POSTURAL ORTHOSTATIC TACHYCARDIA SYNDROME (POTS)

Chandralekha Ashangari, Amer Suleman
The Heartbeat Clinic McKinney, TX, USA

41. High-risk features on carotid MRI do not correlate with emboli monitoring on TCD

Adam de Havenon¹, Ali Sultan-Qurraie², David Tirschwell², Mahmud Mossa-Basha³

¹University of Utah, Department of Neurology Salt Lake City, UT, USA, ²University of Washington, Department of Neurology Seattle, WA, USA,

³University of Washington, Department of Radiology Seattle, WA, USA

42. TCDI and the diagnostic dilemma of a continuous flow state.

Laxmi P. Dhakal¹, Mark N. Rubin², Jose L. Diaz-Gomez¹, Stephanie E. Helmer³, Christina C. Smith¹, William D. Freeman¹

¹Mayo Clinic/ Critical Care/ Neurocritical care Jacksonville, FL, USA, ²Mayo Clinic/ Vascular Neurology Phoenix, AZ, USA, ³Mayo Clinic/ Cardiovas/Thoracic Surg Jacksonville, FL, USA

43. Indexed Plaque Volume: A Novel Volumetric Tool for Assessment of the Severity of Carotid Disease

Hayrapet Kalashyan^{1,2}, Harald Becher^{1,2}, Maher Saqqur¹, Helen Romanchuk¹, Dulara Hussain¹, Khurshid Khan¹, Jonathon Osborne³, Herbert A Manosalva¹, Ashfaq Shuaib¹

¹Division of Neurology, University of Alberta Hospital Edmonton, AB, Canada, ²Mazankowski Alberta Heart Institute, University of Alberta Hospital Edmonton, AB, Canada, ³School of Medicine - University of Tasmania Tasmania, Australia

44. Neurosonologic Monitoring of Pseudoaneurysm of the Superior Cerebellar Artery in an Infant

William A. Kilgo, Paul Maertens, Angela Revere, Molly Del Santo, Steve Cordina
University of South Alabama/Neurology Mobile, AL, USA

45. WITHDRAWN

46. Basilar Artery Territory Stroke Secondary to Invasive Fungal Sphenoid Sinusitis: A Case Report

Katherine A. Fu, Peggy L. Nguyen, Nerses Sanossian

Department of Neurology, University of Southern California Los Angeles, CA, USA

47. Imaging of striatal dopaminergic neurons using DaTscan, in correlation with clinical diagnosis in patients with suspected Parkinsonism versus Essential Tremor

Lesley Flynt, Brian Graner, CY Wong, Dafang Wu

Department of Diagnostic Radiology and Molecular Imaging, Oakland University William Beaumont School of Medicine and Health System Royal Oak, MI, USA

38th ANNUAL MEETING EXHIBITORS

*Please be sure to stop by and visit our exhibitors in the Saguaro Ballroom. **NEW THIS YEAR:** We will have exhibit punch cards. When you visit each exhibitor table they will punch your card. Attendees that have a punch from each exhibit table will be entered into a drawing for a GREAT PRIZE! Turn in your punch cards at the Registration Desk. Winners will be announced after lunch on Friday in both the Cholla and Saguaro IV Ballrooms.*



CORTECHS Labs

CorTechs Labs

Company Representatives: Rich Fernandez and Shelly Adams

CorTechs Labs develops and markets cutting-edge brain imaging solutions used by neurologists and radiologists in hundreds of clinics and research centers around the world. CorTechs' flagship product, NeuroQuant®, is a breakthrough, 510(k)-cleared and CE-Marked software that makes quantitative analysis of MRI images of the human brain a routine part of the clinical practice. NeuroQuant® brings fully automated MRI post-processing capabilities to the medical professionals providing a convenient and cost-effective means to quantify atrophy of brain structures to help in the assessment of a variety of neurodegenerative disorders, including Alzheimer's, epilepsy, MS and TBI. For more information please visit, www.cortechslabs.com.



DENT Neurologic Institute/Dent Imaging Centers

Company Representatives: Maria Caserta and Amanda Fisher

The DENT Neurologic Institute is the largest, most comprehensive out-patient neurology practice in the United States. For over 50 years we have focused on providing superior clinical care, advanced diagnostic services, clinical research and education. DENT has been a leader in diagnostic imaging for over 30 years, providing a comprehensive range of neuroimaging services using state-of-the-art equipment. Our long experience with these advanced diagnostics, as well as specialized training and certification, uniquely qualifies our physicians and medical staff to advance the science and art of diagnostic imaging. We are home to one of nation's largest fellowship programs in neuroimaging, training physicians from around the world in the use of these groundbreaking diagnostic tools. In addition, our preceptorship program provides high-level hands-on training to put you in position for better utilization and interpretation of neuro-diagnostic reporting.

Neuroimaging Fellowship

A one-year Neuroimaging Fellowship is offered by DENT Neurologic Institute each year. This Fellowship is based in a large outpatient neurology practice and includes MRI of the head and spine and CT of the head. Training is also offered in neurosonology, including both Carotid Doppler and Transcranial Doppler. Emphasis is placed on the basic science of Neuroimaging, clinical interpretation of studies, and Neuroimaging research. Upon completion of the program, the graduate will be eligible for clinical certification in MRI and Neurosonology by the American Society of Neuroimaging and eligible for the UCNS Neuroimaging Certification Pathway for Neurologists.

Headache, Neuro-Oncology, Neuroimaging Research, and Dizziness & Balance Fellowships are also available. Visit www.dentinstitute.com

38th ANNUAL MEETING EXHIBITORS



DWL USA Inc.

Company Representatives: Dan Henry and John Bennett, PhD

Currently more than 8,000 DWL Trans-Cranial Doppler Systems are installed in more than 120 countries. They perform reliable Neurosonology every day of the week for many Specialists. If you have a need for TCD stop by and see all we have to offer at DWL USA Inc. www.dwl.us 888-757-5351.



GE Healthcare

Company Representatives: Courtney King and Craig Small

VIZAMYL, flutemetamol (18F) and DaTscan (Ioflupane I123 Injection) are components of a broad portfolio of investigational diagnostic solutions that GE Healthcare is currently developing in the neurology field. GE Healthcare is taking a comprehensive approach to understanding dementia and AD through its ongoing research to uncover the causes, risks, and physical effects of these diseases. GE Healthcare offers a broad portfolio of imaging resources including cyclotrons and chemistry systems to manufacture PET imaging agents, PET and MR scanners to scan patients, and is developing image analysis software to provide quantification, optimized visualization and reporting tools.

Hitachi Aloka Medical America, Inc.

Hitachi Aloka Medical

Company Representatives: Charles Williams and Heidi Barnard

Hitachi Aloka Medical is proud of the reputation we've built as an industry leader in diagnostic ultrasound. Known for our unparalleled image quality, superior system reliability and intuitive use of cutting edge technology, Hitachi Aloka Medical remains the ideal choice for exceptional diagnostic ultrasound imaging in the field of Cardiovascular medicine. Our focused dedication to diagnostic ultrasound imaging allows us to offer a full range of products to meet the needs for all your Cardiovascular applications.



Natus Neurology Incorporated

Company Representatives: Larry Hames

The Nicolet SONARA transcranial Doppler (TCD) system is used for non-invasive assessment of blood flow velocities in major brain arteries and offers diagnostic and advanced monitoring capabilities.

Social Events

Thursday, January 15, 2015

Welcome Reception

6:00pm-7:00pm

Saguaro I, II and III

Please join us for the Welcome and Poster Stand-By Reception. The Reception is complimentary for all registered attendees; guests are welcome with a \$50.00 registration fee. Please visit the Registration Desk to register your guest prior to the reception.

Saturday, January 17, 2015

Presidential Address & Awards Luncheon

12:45pm-2:10pm

Cholla Ballroom

Please join us for the annual Presidential Address and Awards Luncheon, complimentary to all registered attendees. Important issues in the field of neuroimaging will be addressed. The Luncheon will also include a presentation of the 2015 awards.

Saturday, January 17, 2015

ASN Networking Reception

6:00pm-7:00pm

Stagecoach Pass

Please join us for a wonderful opportunity to network with others in the field. The Networking Reception is complimentary to all registered attendees. Light fare is to be served.

ASN

39TH ANNUAL MEETING

January 14-17, 2016

Hilton Orlando Lake Buena Vista
Orlando, Florida

